Amendments to the Claims

This listing of claims replaces all prior versions of claims in the application.

1-7. (Canceled)

8. (Previously Presented) A semiconductor device manufacture method comprising the sequential steps of:

(c1) forming an insulating film made of zirconia or hafnia over a surface of a semiconductor substrate;

(c2) covering a partial surface area of the insulating film with a mask pattern;

(c3) by using the mask pattern as a mask, exposing a region of the insulating film not covered with the mask pattern to one plasma selected from a group consisting of nitrogen plasma, argon plasma and ammonia plasma; and

(c4) following said step of exposing a region of the insulating film not covered with the mask pattern to one plasma selected from a group consisting of nitrogen plasma, argon plasma and ammonia plasma, and by using the mask pattern as a mask, etching a portion of the insulating film.

9. (Original) A semiconductor device manufacture method according to claim 8, wherein the step (c4) etches the insulating film by using one etchant selected from a group consisting of sulfuric acid, mixture liquid of sulfuric acid and hydrogen peroxide, fluoric acid and phosphorous acid.

10. (Canceled)

11. (Previously Presented) A semiconductor device manufacture method comprising the sequential steps of:

forming an insulating film made of zirconia or hafnia over a surface of a semiconductor substrate;

forming a gate electrode on a partial surface area of the insulating film;

by using the gate electrode as a mask, exposing a region of the insulating film not covered with the gate electrode to one plasma selected from a group consisting of nitrogen plasma, argon plasma and ammonia plasma;

following said step of exposing a region of the insulating film not covered with the gate electrode to one plasma selected from a group consisting of nitrogen plasma, argon plasma and ammonia plasma, and by using the gate electrode as a mask, etching a portion of the gate insulating film; and

by using the gate electrode as a mask, implanting impurity ions into a surface layer of the semiconductor substrate on both sides of the gate electrode.

12. (Previously Presented) A semiconductor device manufacture method comprising steps of:

forming an insulating film made of zirconia or hafnia over a surface of a semiconductor substrate;

covering a partial surface area of the insulating film with a mask pattern;

by using the mask pattern as a mask, implanting ions into a region of the insulating film not covered with the mask pattern to transform the region of the insulating film not covered with the mask pattern to an amorphous state; and

following said step of implanting ions into a region of the insulating film not covered with the mask pattern to transform the region to an amorphous state, and by using the mask pattern as a mask, etching a portion of the insulating film by using mixture liquid of sulfuric acid and hydrogen peroxide.